

REMARKS

Reconsideration of this application is respectfully requested. Claims 1-23, 25-42 are pending in the application with Claims 1, 15, 20, 26, and 34 being amended and new Claims 46-48 being added. Claims 2-10 and 35 are allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Rejection under 35 U.S.C. § 112

In the Office Action, the Examiner rejected Claims 1, 11-23, 25-34 and 36-41 under 35 U.S.C. § 112, first paragraph, as not being enabled for cross metathesis in the presence of “any arbitrary metal carbene catalyst.”

Initially, Applicants have amended the metal carbene catalyst in independent claims 1, 26, and 34 to describe a ruthenium or osmium metal carbene catalyst of the formula $XX^1LL^1M=CRR^1$ with defined terms. Moreover, the specification, while indicating a preference for catalysts **3a** and **3b**, nevertheless enables one of skill in the art to use a ruthenium or osmium catalyst of the formula $XX^1LL^1M=CRR^1$ with X, X^1 , L, L^1 , R and R^1 as defined in the claims. Accordingly, Applicants respectfully submit that in view of these amendments and inasmuch as Claims 11-23, 25, 27-33 and 36-41 depend therefrom, Examiner’s rejection of Claims 1, 11-23, 25-34 and 36-41 is rendered moot.

Next, the Examiner rejected Claims 15 and 20 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention, with specific regard to the groups hydroxyl and

thiol. Applicants have deleted reference to these groups. Accordingly, Applicants respectfully submit that the Examiner's rejection of Claims 15 and 20 is rendered moot.

Rejection under 35 U.S.C. § 102

In the Office Action, Claims 26, 33, 34 and 36-41 are rejected under 35 U.S.C. § 102(b) as being anticipated by Crowe et. al. (Journal of the American Chemical Society, Acrylonitrile Cross-Metathesis: Coaxing Olefin Metathesis Reactivity from a Reluctant Substrate, 1995, 117, pages 5162-5163). Specifically, the Examiner states the present invention is anticipated because Crowe discloses the cross-metathesis reaction of acrylonitrile with a variety of olefins having varying degrees of electron deficiency and the use of a molybdenum-based carbene metathesis catalyst. Applicants respectfully submit that the claims as amended to disclose a ruthenium or osmium metal carbene metathesis catalyst render the rejection under 35 U.S.C. § 102(b) moot.

Rejection under 35 U.S.C. § 103

Finally, the Examiner rejected Claims 1, 11, 16 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Schwab et. al. (CA 2249019 04-1999). Specifically, the Examiner stated that the "appearance of 2-methyl-2-butene in the first step is presumed to result from the intermolecular cross-metathesis reaction of isobutene and propene which meets the instant claim limitations" and that further, while Schwab uses a rhenium based catalyst, the use of $\text{RuCl}_2(=\text{CHPh})(\text{PCy}_3)_2$ is suggested. Applicants respectfully traverse this basis of rejection.

Initially, the disclosure of Schwab is directed to a process for preparing propene by metathesis of olefins. Moreover, not only did Schwab exemplify the use of a rhenium based metathesis catalyst for the cross-metathesis reactions of 1-butene and i-butene with 2-butene

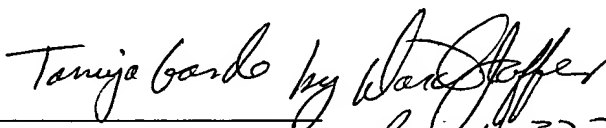
to form propene, but also Schwab specifically discounted the favoring of the formation of 2-methyl-2-pentene via the cross-metathesis of two α -olefins. (See page 6, line 29 – page 7, line 2). In other words, Schwab *teaches away* from the formation of a trisubstituted olefin via cross-metathesis of a gem-disubstituted olefin with a terminal olefin in the presence of a ruthenium or osmium metal carbene metathesis catalyst, as presently claimed. Accordingly, one of ordinary skill in the art looking to produce 2-methyl-2-butene would not have been motivated by Schwab's mere suggestion that $\text{RuCl}_2(=\text{CHPh})(\text{PCy}_3)_2$ may also be used to prepare propene.

In view of the foregoing, Applicants respectfully request that the rejections be withdrawn and that Claims 1, 11-23, 25-34, and 36-41 be reconsidered.

All objections and rejections having been addressed by way of amendment and the remarks set forth above, reconsideration and allowance of this application is respectfully requested. Applicants submit that the present application is in condition for allowance and a notice to that effect is earnestly solicited. The Examiner is invited to telephone the undersigned representative if it is believed that an interview may be useful for any reason.

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Respectfully submitted,


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